

Listing of the Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

1-44. (Canceled)

45. (Currently amended) A method of constructing a replication-incompetent recombinant retrovirus, comprising:

- (a) providing a first nucleic acid molecule lacking retroviral sequences which produce retroviral gene products and which comprises a 5'-long terminal repeat, a 3'-long terminal repeat, a packaging signal, and at least a first and a second recombination site that do not recombine with each other;
- (b) contacting the first nucleic acid molecule with a second nucleic acid molecule comprising a sequence of interest flanked by at least a third and a fourth recombination site under conditions such that recombination occurs between the first and third recombination site and between the second and fourth recombination site; and
- (c) introducing the nucleic acid molecule generated in step (b), with at least three additional nucleic acid molecules which encode retroviral proteins, into a cell that packages the nucleic acid molecule generated in step (b) such that the packaging signal of the first nucleic acid molecule is present in trans with respect to the at least three additional nucleic acid molecules which encode retroviral proteins.

46. (Previously Presented) The method of claim 45, wherein the at least three additional nucleic acid molecules lack a 5'-long terminal repeat, a 3'-long terminal repeat and a packaging signal.

47. (Previously presented) The method of claim 45, wherein the nucleic acid molecule produced in step (b), and the at least three additional nucleic acid molecules lack sufficient

homology to undergo homologous recombination with each other or with the first and second nucleic acid molecules thereby preventing homologous recombination between the nucleic acid molecule produced in step (b), the at least three additional nucleic acid molecules, and the first and second nucleic acid molecules.

48. (Previously Presented) The method of claim 46, wherein one of the at least three additional nucleic acid molecules comprises a retroviral gag gene and a retroviral pol gene.

49. (Previously Presented) The method of claim 46, wherein one of the at least three additional nucleic acid molecules comprises a retroviral rev gene.

50. (Previously Presented) The method of claim 46, wherein one of the at least three additional nucleic acid molecules comprises a retroviral envelope gene.

51. (Previously presented) The method of claim 50, wherein the retroviral envelope gene is a VSV-G gene.

52. (Previously Presented) The method of claim 45, wherein the first nucleic acid molecule is a plasmid or a bacmid comprising an origin of replication and a selectable marker.

53. (Previously Presented) The method of claim 45, wherein the portion of the second nucleic acid between the recombination sites comprises a nucleotide sequence of interest.

54. (Previously Presented) The method of claim 53, wherein the sequence of interest comprises one or more sequences selected from a group consisting of, a sequence encoding one or more polypeptides, a sequence encoding one or more tRNA sequences, a sequence encoding one or more ribozyme sequences, one or more promoter sequences, one or more enhancer sequences, and one or more repressor sequences.

55. (Previously Presented) The method of claim 45, further comprising digesting the first nucleic acid molecule with a restriction enzyme that cleaves the first nucleic acid at a site

between the recombination sites.

56. (Previously Presented) The method of claim 45, wherein the first and second recombination sites are *attL* sites and wherein the third and fourth recombination sites are *attR* sites such that when the first nucleic acid molecule is contacted with the second nucleic acid molecule the first *attL* recombination site recombines with the third *attR* recombination site and the second *attL* recombination site recombines with the fourth *attR* recombination site.